REMARKS

Claims 1-5 and 13-16 remain pending in the present application as amended and have been finally rejected. Claims 1 and 13 have been amended to explicitly recite that attribute key frames and compound key frames are particular types of key frames. No claims have been added. Applicants respectfully submit that no new matter has been added.

Telephone Conversation With Examiner

Examiner Broome is thanked for the telephone conversation conducted on February 11, 2009. Proposed claim amendments were discussed. Cited art was discussed. Examiner Broome suggested further amendments for clarification. No agreements were reached.

Claim Rejections

The Examiner has now rejected the claims under 35 U.S.C. § 103 as being obvious over Skyrme ("Full Product Review Adobe Live Motion") in view of Herbstman et al. (U.S. Pat. No. 5,929,867). Applicants respectfully traverse the Section 103 rejection insofar as it may be applied to the claims as amended. In particular, Applicants respectfully submit that such references fail to disclose or even suggest both the attribute key frame and compound key frame as predetermined types of key frames as recited in independent claims 1 and 13 as amended.

As previously pointed out, the industry standard for animation authoring tools uses a key frame, which is defined as a point in time, and a set of property changes that occur at that point in time. The properties, also referred to as attributes[1], can be anything from the color of an object to the entire contents of a scene, for example. Some tools, such as Macromedia Flash, represent key frames at the layer level and store the entire state of all objects in the layer at that point in time. As should be appreciated, such layer level represents a layer of animation and

[1] Applicants again note that the present application and claims employ the terms 'attribute' and 'properties' and variations thereof in an interchangeable manner, and accordingly such terms should be interpreted to be equivalent to one another.

includes one or more objects that reside within such layer. Other tools, such as Adobe Live Motion, represent key frames on the attributes of an object (i.e., where each attribute has its own key frame as needed) so that an indicator is stored on every property of an object which tells whether or not the property is animated. Both approaches have several drawbacks.

To review, one drawback of representing key frames at the layer level and storing the entire state of all objects in the layer at that point in time is that it is difficult for the user to determine from the user interface which properties are being animated on any particular object. Another drawback of this approach is that it is very difficult for the user to animate the value of a property across one of these key frames. In contrast, the approach of representing key frames only on the attributes of an object (as is the case with the Adobe LiveMotion product that has been cited by the Examiner) has a drawback that in order to animate any property on an object, the user must search through a list of all properties on the object, and set the switch that makes that property animated, allowing key frames to be stored for that property. Furthermore, this approach requires the user to select or click a button on each property that he desires to animate. This can be cumbersome when trying to author an animation. Moreover, using this approach it is difficult to quickly determine at what times particular properties of an object are being animated, if the user cannot see all of the properties for the element on screen.

Thus, the prior art has defined key frames either 'coarsely' at the layer level that encompass all properties / attributes of all objects at the layer level, or else 'finely' at the attribute level that encompass only an attribute of a particular object, both of which result in corresponding problems. Accordingly, in the present application, a *type of* key frame (i.e., a compound key frame) is defined at an 'intermediary' object level that encompasses all attributes of a particular object.

In particular, independent claim 1 as amended recites a method of keyframing an object with a plurality of properties and implemented at least in part by a computer. Claim 1 specifies that at least one property and a time for the object are identified, and a first compound key frame

is created at the time. A second time is then created for the object, as is a second compound key frame at the second time, but a change to the at least one property is received prior to creating the second compound key frame. Thus, the second compound key frame incorporates the change to the at least one property. Responsive to the received change to the at least one property, an attribute key frame is created if no attribute key frame exists for the at least one property at the time the received change is received, or an existing attribute key frame is changed if the existing attribute key frame exists at the time the received change is received.

As amended, claim 1 further recites the distinction between a compound key frame and an attribute key frame. In particular, claim 1 recites that each attribute key frame is instantiated from *a predetermined type of* a key frame implemented at a level corresponding to the properties of the object and specific to the at least one property of the object, and each compound key frame is instantiated from *a predetermined type of* a key frame implemented at a level corresponding to the object and specific to all possible properties of the object. That is, a compound-type key frame is an intermediary type of key frame, as was discussed above, and encompasses all possible properties or attributes of a particular object, while an attribute-type key frame is a fine type of key frame, as was also discussed above, and encompasses only the at least one property of the object.

As a result, an attribute-type key frame focuses only on a particular attribute of a particular object while a compound-type key frame focuses on all attributes of a particular object. Correspondingly, an attribute-type key frame is employed when only a particular attribute is to be manipulated at the time of a key frame, while a compound-type key frame is employed when multiple attributes are to be manipulated, at the time of a key frame.

Finally, claim 1 as amended now recites that a compound key frame is initially set in a timeline to represent all of the properties of a corresponding object when the corresponding object first appears in the animation, and an attribute key frame is subsequently set in the timeline to represent a change to a particular property of the corresponding object when the

corresponding object experiences the change in the animation. Such a distinction may be found in the application as filed at least at paragraph 0042 (as published).

Independent claim 13 as amended recites subject matter similar to that of claim 1 as amended, albeit as a computer system performing a method.

The Examiner, in setting forth the present Office Action, concedes that Skyrme's perception of the LiveMotion product as set forth in the Skyrme reference clearly does not disclose or even appreciate the distinction between an attribute-type key frame and a compound-type key frame, as is now specifically recited in claims 1 and 13. Nevertheless, the Examiner cites to the Herbstman reference as disclosing such a distinction.

In fact, the Herbstman reference discloses a distinction between two types of key frames: a fixed-type key frame and a floating-type key frame. As disclosed, a fixed-type key frame has spatial attributes that control the shape of Q and temporal attributes that control the shape of S, while a floating-type key frame has spatial attributes that control the shape of Q, but no temporal attributes. Thus, while the Herbstman reference does disclose different types of key frames, and does disclose particular created key frames, the Herbstman reference does not disclose or even suggest the compound and attribute types of key frames that are recited in amended claims 1 and 13.

In particular, the Herbstman reference does not disclose or even suggest an attribute *type of* frame that is predetermined and that focuses only on a particular attribute of a particular object, or a compound *type of* key frame that is predetermined and that focuses on all attributes of a particular object. Instead, and again, the focus of the Herbstman key frames is on spatial and/or temporal attributes, and not types of key frames distinguished based on levels of coarseness of attributes that are to be manipulated at the time of such key frames, in the manner recited in claims 1 and 13.

Also, the Herbstman reference does not disclose or even suggest that that a compound key frame is initially set in a timeline to represent *all of the properties* of a corresponding object when the corresponding object *first appears* in the animation, and an attribute key frame is subsequently set in the timeline to represent *a change to a particular property* of the corresponding object when the corresponding object *experiences the change* in the animation. Such a distinction may be found in the application as filed at least at paragraph 0042 (as published).

Applicants respectfully note that in setting forth the details of the present rejection, the Examiner cites to several parts of the Herbstman reference in an effort to show attribute and compound key frames. However, upon reviewing such Herbstman reference and the cited parts, Applicants respectfully note that such parts do not disclose particular types of key frames but instead only that key frames operate on attributes. Apparently, the Examiner is suggesting that the Herbstman key frames could possibly be fashioned in an ad hoc manner to appear as the compound or attribute key frames such as are recited in the claims of the present application. If so, Applicants respectfully submits that such ad hoc fashioned key frames are not the predetermined types of key frames as are recited in claims 1 and 13. Moreover, Applicants respectfully submit that obviousness requires more than a mere possibility based on a cited reference. Instead, obviousness requires a positive disclosure in the cited reference, which is lacking in the Herbstman reference.

Further, Applicants respectfully submit that the Skyrme reference and the Herbstman reference do not appreciate the need for such a compound-type key frame which is used at an intermediary object level and with regard to all attributes of a particular object. Specifically, the Skyrme reference and the LiveMotion product do not show any understanding of the drawbacks of a key frame at a coarse layer level or of an [attribute-type] key frame at a fine layer level, or that such drawbacks might be alleviated by a compound-type key frame at an intermediary object level. In fact, the Herbstman reference approaches key frames from an orthogonal point of view

and does not at all concern itself with the level of coarseness of attributes of the types of Herbstman key frames.

Applicants again respectfully submit that Skyrme's perception of the LiveMotion product as set forth in the Skyrme reference clearly does not disclose or even appreciate the recited distinction between an attribute-type key frame and a compound-type key frame, as is set forth in claims 1 and 13, or that the types of key frames should or could be employed in the manner recited in the claims 1 and 13. Accordingly, the Skyrme reference cannot be employed to make obvious such claims 1 and 13.

Thus, for all of the aforementioned reasons, Applicants respectfully submit that the Skyrme reference and the Herbstman reference cannot be combined to make obvious claims 1 or 13 or any claims depending therefrom, including claims 2-5 and 14-16. Accordingly, Applicants respectfully request reconsideration and withdrawal of the Section 103 rejection.

CONCLUSION

In view of the foregoing Amendment and Remarks, Applicants respectfully submit that the present Application including claims 1-5 and 13-16 is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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